

the triple nerves from the base, and an examination of the published figures of fossil leaves referred to this genus shows several species which have the basal secondaries (lateral primaries) inserted at the base of the midrib\* and several additional species in which these secondaries are subbasal in some of the leaves.

An examination of the existing species contained in the herbarium of the New York Botanical Garden shows many leaves with basal secondaries in the following species: *Cinnamomum pedatinerviium*, *Javanicum*, *obtusifolium*, *pauciflorum*, *Sieboldi*, *nitidum*, *eucalyptoides*, *albiflorum*, *pedunculatum* and *Zeylanicum*.

EDWARD W. BERRY.

PASSAIC, NEW JERSEY.

## PROCEEDINGS OF THE CLUB

WEDNESDAY, NOVEMBER 25, 1903

This meeting was held at the New York Botanical Garden at 3.30 P. M.; Professor Underwood in the chair; 18 persons present.

The appointment of Professor Burgess to fill the vacancy on the membership committee was announced.

Dr. Britton presented a memorial on the life work of the late Mr. Cornelius Van Brunt, which by vote of the Club was ordered spread on the minutes and printed in TORREYA.†

The principal paper on the scientific program was by Mrs. Britton, entitled "Notes on further botanical Explorations in Cuba." The party, consisting of Dr. and Mrs. Britton and Mr. Percy Wilson, went to Cuba by way of Tampa, Florida, going direct to Matanzas, which point was reached on August 27, 1903. Extracts were read from her diary, giving an interesting account of the daily happenings during the exploration of the region about Matanzas, Cardenas and Sagua. Many photographs were shown illustrating the regions visited and specimens of some of

\* See Lesq. Cret. Fl., *pl.* 30. *f.* 3. 1874; Tert. Fl., *pl.* 36. *f.* 12; *pl.* 37. *f.* 4, 5. 1878; Fl. Dak. Group, *pl.* 11. *f.* 4. 1892; Newb. Fl. Amboy Clays, *pl.* 29. *f.* 6, 7. 1896.

† See TORREYA, 3: 177. *Portrait.* 22 D 1903.

the more conspicuous plants were exhibited. As the herbarium material secured by the expedition has not yet been studied, no detailed account of the botanical features of the region was attempted. All of this part of the island has been devastated by war. There is no primitive forest and comparatively few large trees are left standing. On the return, a few days were spent in Havana visiting the botanical institutions of that city.

Dr. Britton exhibited specimens of what seem to be two species of hackberry. The common *Celtis occidentalis* of the eastern states is a small tree seldom exceeding 40 feet in height, having smooth, slightly acuminate leaves and globular orange-colored fruits. On an excursion of the Torrey Club to the Delaware Water-Gap some years ago, some much larger trees were observed growing in moist locations and having long acuminate leaves and oval fruits. This seems to be the *Celtis canina* of Rafinesque. It is somewhat widely distributed, its range overlapping to some extent that of *C. occidentalis*, but it always occurs on moister, richer lands and grows to be a much larger tree.

F. S. EARLE,  
Secretary.

TUESDAY, DECEMBER 8, 1903

The Club met at the College of Pharmacy at the usual hour ; 18 persons present ; Dr. Rusby in the chair.

Dr. C. A. King, Mr. J. A. Shafer and Mr. Frederick H. Blodgett were elected members of the Club.

The resignation of Mr. B. D. Gilbert as a member of the Club was accepted.

A proposition from the Scientific Alliance was submitted by Dr. Britton, suggesting the weekly publication of notices of society meetings and other items of scientific interest in place of the monthly Bulletin now published. After some discussion the suggestion was unanimously approved.

The scientific program consisted of a paper by Mr. W. T. Horne on "The Vegetation of Kadiak Island, Alaska." The paper was illustrated by a large number of botanical specimens

and by numerous photographs, showing the topography of the island and the characteristics of the different plant formations. Kadiak Island is  $58^{\circ}$  north latitude and  $155^{\circ}$  west longitude and is 30 miles from the mainland. It is 90 miles long by 50 wide and has a very irregular coast line. The surface is much diversified and broken. A fresh-water lake about 20 miles long is situated in the northwestern part of the island. It is connected with the sea by the Karluk river and furnishes an ideal breeding-ground for the red salmon. One of the most important fishing stations and canning plants in the world is located near the mouth of this river. The winters are very long, beginning early in October, but they are not intensely cold. The lowest temperature during the two years of Mr. Horne's stay was  $-10^{\circ}$ . There is much mild weather and frequent thaws. The soil freezes only to a depth of from one to two feet, and the frost is out of the ground early in June. The highest summer temperature noted was  $72^{\circ}$ . The Chinese laborers in the canning factory make gardens where they cultivate successfully many of the more hardy vegetables.

The principal plant formations discussed were those of the low-lying bogs, the comparatively level grass lands, the higher-lying peat bogs, and the alpine flora occupying the rocky hills. Marine plants are not particularly conspicuous though many brown and red seaweeds occur. Two species of *Potamogeton* are found in the river at the point where the salt and fresh water meet. Above this point the river is comparatively free from vegetation. The country is well watered by small streams. These are often full of various green algae and they are frequently dammed by dense growths of mosses. Some of the smaller slower brooks are completely blocked by dense growths of species of *Vaucheria* which so retard the flow of the water as to form low wet bogs that are covered with a characteristic vegetation. The earliest plant to flower in the spring in these *Vaucheria* bogs is the small *Claytonia asarifolia*. Other conspicuous spring plants are a species of *Rumex*, *Caltha palustris*, and various species of the Cruciferae. These bogs are the most showy in midsummer when filled with *Polemonium acutifolium*, several

species of *Epilobium* and a handsome *Mimulus*. *Epilobium luteum* in particular forms showy masses in the bogs and along the brooks. A large-flowered skunk cabbage (*Lysichiton*) also occurs in wet places frequently marking the course of little brooks along the hillsides. *Carex cryptocarpa* forms a dense zone bordering portions of the river bank.

The drier and comparatively level grass lands are always completely covered by layers of mosses and lichens so that they approach the condition of the tundras. The first spring flowers of the grass lands are the abundant pink blossoms of the little *Rubus stellatus*, which also is a conspicuous plant in the fall on account of the rich coloring of its leaves. The turf consists mostly of *Carex Gmelini*. Scattered plants of species of *Poa* and *Festuca* are frequent, but the dominant grass is a species of *Calamagrostis*. A fragrant grass, a species of *Hierochloa*, called locally "vanilla grass," occurs, but it is not abundant. Other conspicuous plants are *Trientalis Europea arctica*, two species of violets, *Geranium cilianum*, also conspicuous in the fall from its red foliage, a yellow *Castilleja*, *Viburnum pauciflorum*, *Sanguisorba latifolia*, *Galium boreale*, and a large showy *Lupinus*. The salmon berry, *Rubus spectabilis*, is frequent and bears a large, delicious edible berry. In midsummer great patches of fireweed, *Chamaenerion angustifolium*, suddenly burst into bloom, giving a most striking color effect. Later in the season *Solidago lepida* becomes conspicuous. *Lathyrus palustris* was the only plant seen having a vine-like habit.

The peat-bogs occur at the foot of the hills. Among their characteristic plants are *Betula glandulosa*, a shrub reaching two feet in height; *Empetrum nigrum*, with black fruits that are called "blackberries" and are eaten by the natives; and *Ledum palustre*, the leaves of which are used for a tea. *Vaccinium ovalifolium* grows along the upper edge of the grass lands. It furnishes an important economic fruit.

The Alpine flora on the rocky hills consists of a mat-like growth of mosses, Cladonias, *Empetrum*, dwarf blueberries, etc. The first to bloom in the spring is *Mairania alpina*. The fall foliage of this plant is very showy, forming intense red patches

on the hillsides. Other conspicuous plants are *Aragallus arcticus*, *A. nigrescens*, *Chamaccistus procumbens*, *Diapensia Lapponica*, *Lloydia serotina*, *Campanula lasiocarpa*, and various dwarf arctic willows. *Vaccinium uliginosum* and *V. Vitis-Idaea* are abundant and their fruits are of great economic importance to the natives.

The paper brought out an interesting discussion lasting till the hour for adjournment.

F. S. EARLE,  
Secretary.

### NEWS ITEMS

Professor L. M. Underwood has been elected chairman of the Section of Biology of the New York Academy of Sciences.

Professor J. C. Arthur, of Purdue University, Lafayette, Indiana, is spending a month at the New York Botanical Garden, engaged in some special mycological researches.

Dr. D. T. MacDougal, director of the laboratories of the New York Botanical Garden, left New York on January 13 to visit the Desert Botanical Laboratory of the Carnegie Institution at Tucson, Arizona. He plans also to visit Lower California and will probably be absent from the Garden for about six weeks.

Dr. Burton E. Livingston, instructor in plant physiology in the University of Chicago, and Miss Winifred J. Robinson, instructor in botany in Vassar College, who have been devoting several months to studies in the laboratories of the New York Botanical Garden, returned to their respective institutions about the first of January.

The seventh meeting of the Society for Plant Morphology and Physiology was held at the University of Pennsylvania, Philadelphia, December 29-31, 1903. Fifteen papers were presented and discussed. No presidential address was given on account of the absence of the president, Professor Roland Thaxter. The following officers were elected for the ensuing year: president, Dr. George T. Moore; vice-president, Professor Clara E. Cummings; secretary-treasurer, Professor W. F. Ganong. A committee of three was appointed to confer with committees from